

Remarks

Reconsideration of this Application is respectfully requested. Claims 1-5, 7-19, 21-46 and 48-54 are pending in the application, with claims 1, 16, 24 and 35 being the independent claims.

Examiner Interview

Applicants appreciate the courtesies extended by Examiner Patel and Primary Examiner Mengistu during the personal interview conducted on May 21, 2004. During the interview, the rejection of the independent claims were discussed with respect to the cited references.

Rejections Under 35 U.S.C. 103(a)

Claims 1-54 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,373,463 to Beeks (“the Beeks patent”) in view of U.S. Patent No. 5,766,016 to Sinclair et al. (“the Sinclair patent”) and further in view of U.S. Patent No. 5,982,353 to Gallery et al. (“the Gallery patent”).

Independent Claim 1 and its Dependent Claims

Independent claim 1 recites “updating data values associated with at least a portion of a virtual hand displayed in a graphical environment of a host computer based on manipulation of at least a portion of an object coupled to the host computer, the portion of the virtual hand *directly contacting a virtual body part to produce a virtual palpation within the graphical environment; and outputting haptic feedback to the object when the virtual palpation within the graphical environment occurs.*”

As discussed during the interview, none of the references disclose or suggest outputting haptic feedback when a virtual palpation occurs in the graphical environment, where the virtual

palpation includes a portion of a virtual hand directly contacting a virtual body part as recited in claim 1.

Hence, the references, either alone or in combination, fail to disclose or suggest the invention as recited by independent claim 1. Based at least on their dependence upon independent claim 1, dependent claims 2-5 and 7-15 are also allowable. The rejection of claim 6 is obviated by the cancellation of that claim.

Independent Claim 16 and its Dependent Claims

Independent claim 16 recites “updating data values associated with at least a portion of a virtual hand displayed in a graphical environment of a host computer based on manipulation of at least a portion of an object coupled to the host computer; and outputting haptic feedback to the object based on a signal associated with an interaction of the portion of the virtual hand with a graphical representation of a simulated being, *the haptic feedback being a simulated pulse of the virtual being.*”

None of the cited references discloses or suggests “haptic feedback being a simulated pulse of [a] virtual being” as recited in independent claim 16. In fact, the Office Action is completely silent with respect to the elements recited in claim 16 related to a simulated pulse.

Hence, the references, either alone or in combination, fail to disclose or suggest the invention as recited by independent claim 16. Based at least on their dependence upon independent claim 16, dependent claims 17-19 and 21-23 are also allowable. The rejection of claim 20 is obviated by the cancellation of that claim.

Independent Claim 24 and its Dependent Claims

Independent claim 24 recites a “portion of the virtual hand directly contacting a virtual body part to produce a virtual palpation within the graphical environment; and outputting haptic feedback to the object based on interaction of the portion of the virtual hand with a graphical

representation within the graphical environment, the haptic feedback simulating a palpated feature that is one of on and below the surface of the graphical representation.”

The references, either alone or in combination, disclose or suggest outputting haptic feedback when a virtual palpation occurs in the graphical environment, where the virtual palpation includes a portion of a virtual hand directly contacting a virtual body part. Additionally, the references, either alone or in combination, fail to disclose or suggest haptic feedback “simulating a palpated feature that is one of on and below the surface of the graphical representation.” In fact, the Office Action is silent with respect to such a recitation in independent claim 24.

Hence, the references, either alone or in combination, fail to fail to disclose or suggest the invention as recited by independent claim 24. Based at least on their dependence upon independent claim 24, dependent claims 25-34 are also allowable.

Independent Claim 35 and its Dependent Claims

Independent claim 35 recites a “an actuator coupled to the manipulatable object and configured to output haptic feedback based on interaction of the portion of the virtual hand with a region within the graphical representation, the haptic feedback simulating the palpation of the virtual being.”

The references, either alone or in combination, fail to disclose or suggest an actuator configured to output haptic feedback based on interaction of a portion of a virtual hand and a virtual being.

Hence, the references, either alone or in combination, fail to fail to disclose or suggest the invention as recited by independent claim 35. Based at least on their dependence upon independent claim 35, dependent claims 36-46 and 48-54 are also allowable. The rejection of claim 47 is obviated by the cancellation of that claim.

Conclusion

All of the stated grounds of rejection have been properly traversed or rendered moot.

Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicants believe that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that further personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

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